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THE AMERICAN MUSEUM JOURNAL

Volume IX April, 1909 Number 4

Published monthly from October to May inclusive by
THE AMERICAN MUSEUM OF NATURAL HISTORY
NEW YORK CITY

American Museum of Natural History

Seventy-seventh Street and Central Park West, New York City

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THE AMERICAN MUSEUM OF NATURAL HISTORY was established in 1869 to promote the Natural Sciences and to diffuse a general knowledge of them among the people, and it is in cordial coöperation with all similar institutions throughout the world. The Museum authorities are dependent upon private subscriptions and the dues from members for procuring needed additions to the collections and for carrying on explorations in America and other parts of the world.

The membership fees are,

Annual Members	$ 10	Fellows	$ 500
Life Members	100	Patrons	1000

All money received from membership fees is used for increasing the collections and for developing the educational work of the Museum.

The Museum is open free to the public on every day in the year.

ANDAMAN ISLANDER SHOOTING FISH.

The American Museum Journal

Vol. IX APRIL, 1909 No. 4

A COLLECTION FROM THE ANDAMAN ISLANDS.

THE Museum has lately acquired a considerable ethnological collection from the Andaman Islands which is of more than common interest. These islands, which until a comparatively recent date were almost a *terra incognita*, are still practically unknown to the general reader for the reason that the greater part of the literature that has appeared concerning them has been in the form of papers published by scientific societies, and has not been easily accessible to the public. For this reason a few words about the islands and their inhabitants may not be out of place before entering on a description of the more notable objects in the collection.

The Andamans form a narrow chain of islands, nowhere exceeding twenty miles in width, extending nearly north and south in the Bay of Bengal. The three main islands of the group, North, Middle and South Andaman, together with some small islands, are known as Great Andaman. To the south of these lies Little Andaman. The British established a penal settlement on South Andaman in 1789, but three years later removed it to North Andaman. In February, 1796, this colony was abandoned and the prisoners removed to Penang, while the free settlers and the troops were conveyed back to Bengal. From this date the Andamans remained unoccupied by aliens for sixty-two years. The British again formed a penal settlement on South Andaman in 1858, which has since been maintained for East Indian criminals.

The Andamanese belong to the Negrito race. They are small but well formed people with short frizzled hair, and with skin ranging in color from dark copper to sooty black. The following table, prepared by Mr. E. H. Man, gives a clearer idea of the stature and weight of these people than could be gained by any lengthy description.

Maximum height of	males	measured,	5 ft.,	4½ in.
"	"	females	"	4 "	11½ "
Minimum	"	males	"	4 "	5¾ "
"	"	females	"	4 "	4 "

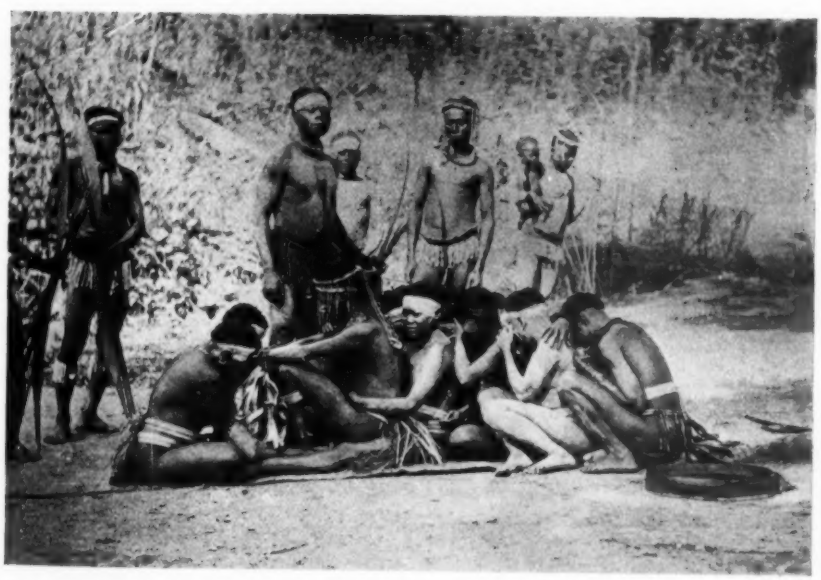
Mr. Man's results give as the average height of the men 4 feet, $10\frac{3}{4}$ inches, and of the women 4 feet, $7\frac{1}{4}$ inches, while their average weight is $98\frac{1}{8}$ pounds and $93\frac{1}{4}$ pounds, respectively.

It would probably be impossible, as Mr. C. Boden Kloss remarks, to find a people of purer descent, because ever since they peopled the islands in the Stone Age they have remained secluded from the outer world. To this isolation, furthermore, is due the uniformity so marked in their physical and mental characteristics.

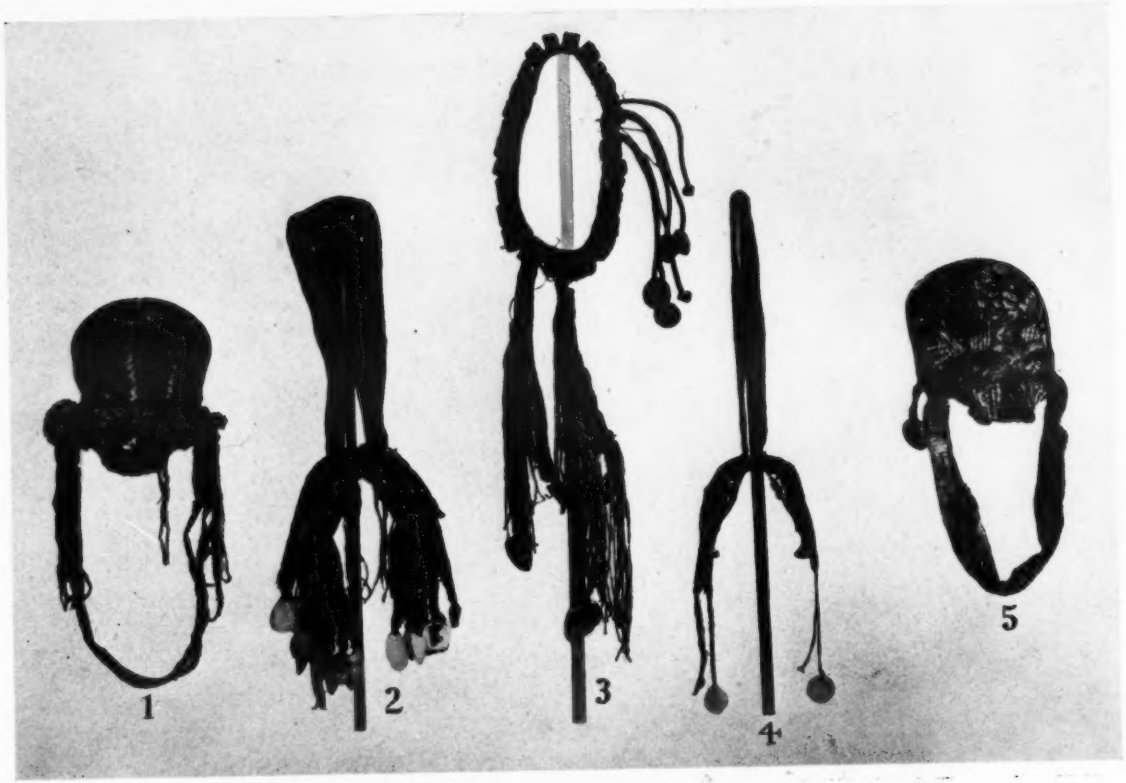
Many were the fabulous stories told of these islanders in early times. Ptolemy is supposed to have referred to the Andamanese when he describes a people as "anthropophagi whose heads grew beneath their shoulders." It was also said that they had tails like horses. As regards the charge of cannibalism, not a particle of evidence has been discovered of such a practice among the Andamanese, even in remote times. The belief that their heads grew from below their shoulders and that they had tails like horses, may be traced to their custom of wearing the skulls of departed relatives suspended by a strap about the neck, and a tail-like bunch of pandanus leaves attached to their belts behind.

Clothes, as we understand the word, were unknown among the early Andamanese. Circlets about the neck, arms and legs and a waistband with a pendant bunch of leaves, shells, beads or other objects were generally worn, but even these were dispensed with in some localities. Some time after the establishment of the penal settlement at Port Blair, the aborigines in the vicinity were required, by law, to wear a sort of frock, but the idea in the minds of the islanders, concerning the purpose of this regulation is well illustrated by an amusing incident related by Dr. G. E. Dobson, who visited the Andamans in 1872 for the purpose of collecting zoölogical specimens. He says, "We were received by the wife of the chief, who had hastily donned the frock provided by the Government to receive visitors in, but very soon afterwards perceiving that no ladies were in our boat, she got rid of that unnecessary encumbrance, and presented herself in nature's garb, adorned by a single leaf, a garter tied below one knee, and a necklace composed of the finger and toe-bones of her ancestors." Tattooing is very generally practiced throughout the islands. The instrument formerly in use for incising the designs was a flake of quartz, but since the advent of the whites, a piece of glass has become the favorite tool.

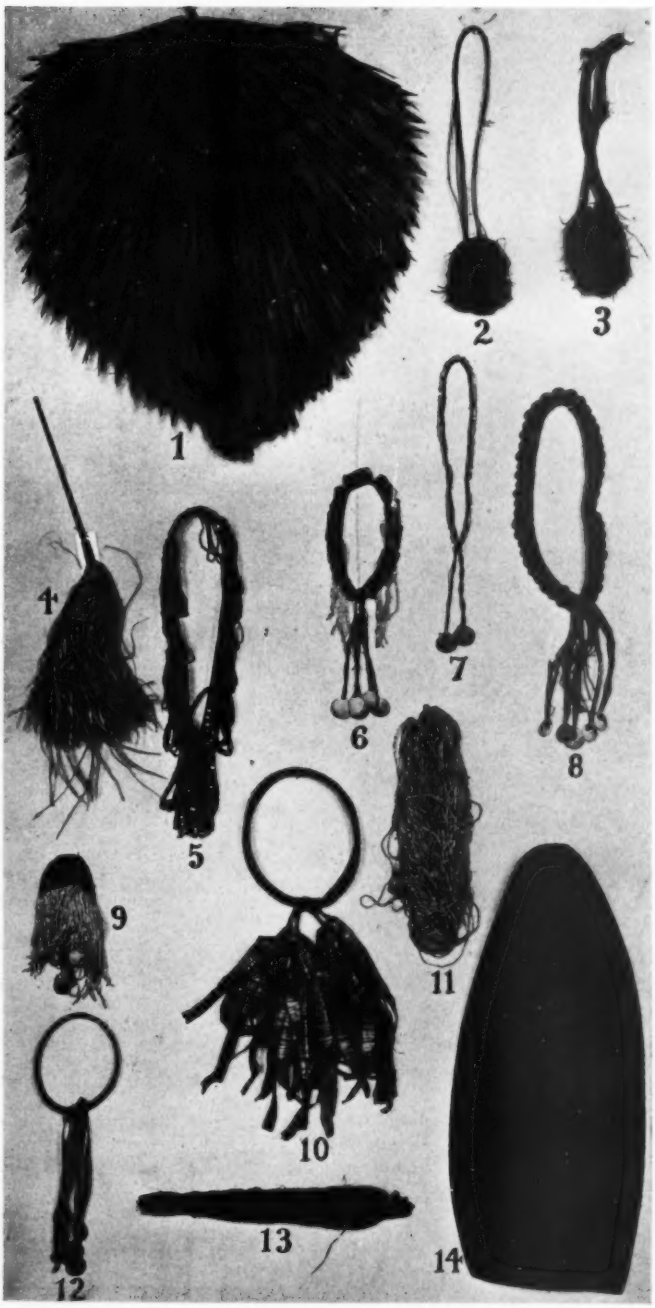
THE MEETING (RIGHT) AND THE PARTING (LEFT) OF THE ANDAMANESE.



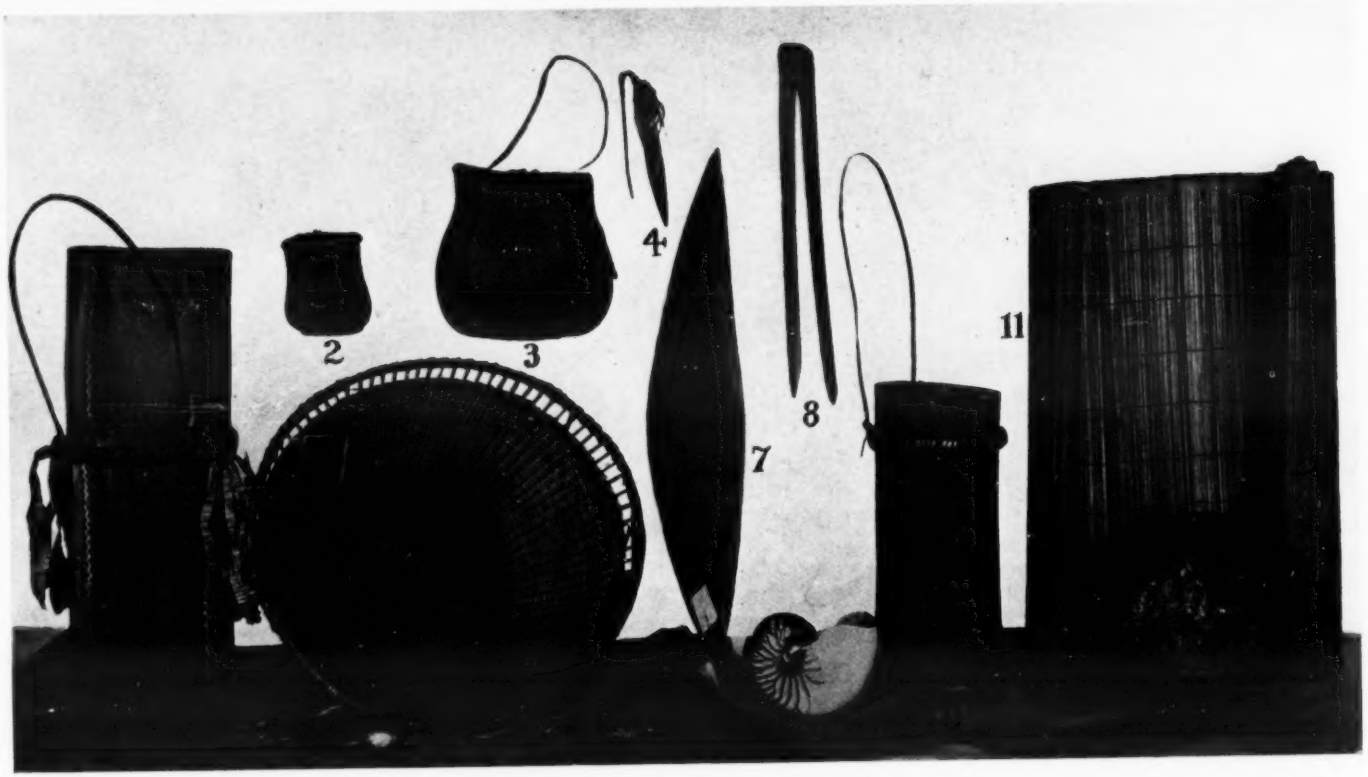
AN ANDAMANESE MARRIAGE CEREMONY.



PREPARED SKULLS AND BONES WORN AS TOKENS OF RESPECT FOR THE DEAD.



ANDAMANESE ORNAMENTS AND IMPLEMENTS.



BASKETS, MATS AND HOUSEHOLD IMPLEMENTS.

Since the establishment of the penal settlement at Port Blair, on South Andaman, the race, as is shown by government statistics, has been rapidly approaching extinction.

Description of Illustrations and Specimens.

The illustration on page 80 shows a man shooting fish, a pursuit in which the natives are very expert. As he stands in the edge of the water with drawn bow, every line of his supple body is full of grace. Note the peculiar shape of the bow in his hand, which is generally made of a kind of wood known in the islands as "Chai" (*Alphonsea ventricosa*). The arrows used for shooting fish are made of a reed-like variety of bamboo (*Bambusa nana*) and have a very short foreshaft of wood, to which is bound an iron point and one or more barbs of iron.

In the upper figure on page 83 are illustrated the customs in vogue at meeting and parting. Unlike most peoples, the Andamanese testify their joy at meeting by excessive weeping. When relatives meet after an absence of a few weeks, they sit together with their arms around each other's necks and indulge in loud wailings until nearly exhausted. At parting, the guest takes the hand of his host and blows on it. The compliment being returned, the guest takes his leave, shouting out invitations and promises of future meetings until out of earshot.

The marriage ceremony is shown in the lower figure of page 83. This consists in the chief of the tribe leading the bashful groom up to the equally bashful bride, and seating him in her lap, the prospective wife being in the meantime held in position by the women of the tribe. The chief then gives the young couple some advice as to their future conduct, and the ceremony is ended.

The illustration on page 84 shows objects connected with some of the most curious customs of the Andamanese. Figs. 1 and 5 show prepared human skulls, already referred to, which are worn as a token of respect for lost members of the family. These are carefully cleaned and painted; after which pendants with shells or fringe are attached, and a strap is put on by which they are suspended around the neck of the wearer. There is no obligation to wear this sign of mourning for any great length of time, and it is passed from one to another of the relatives. Figs. 2 and 4 are human jaws which are prepared and worn in the same way and for the same purpose as the skulls just described. Fig. 3 shows a band of human bones with pendant fringe and shells. This is a fetish, and is worn by friends of a sick person, as a cure. When a person is suffering pain, the fetish is frequently placed over the affected part.

Several objects, mostly ornaments, are grouped in the illustration forming page 85. Fig. 1 is a palm leaf, used as a sleeping mat, and as a protection from sun and rain. Figs. 2 and 3 are waist-bands. Fig. 4 is a fringe of cane leaves, attached to a stick. This is suspended from trees where death has occurred. Fig. 5 is a sling for carrying infants. Figs. 6, 7, 8, 9 and 12 represent bands with bones, shells and fringes, worn around the neck or arms by both sexes. Fig. 10 is a waist-belt made of the leaves of the young screw pine (*Pandanus andamanensium*), the bunch of leaves being worn behind. This is the ornament that is supposed to have given rise, in former times, to the idea that the natives had tails like horses. Fig. 11 is a waist-belt of shells (*Dentalium octagonum*). Fig. 13 is a torch of resin, wrapped in palm leaves, used when fishing, traveling or dancing by night. Fig. 14 represents a sounding board or drum. It is supported at an angle by a stick driven into the ground, as shown on page 89, and is sounded by striking with the foot or a spear.

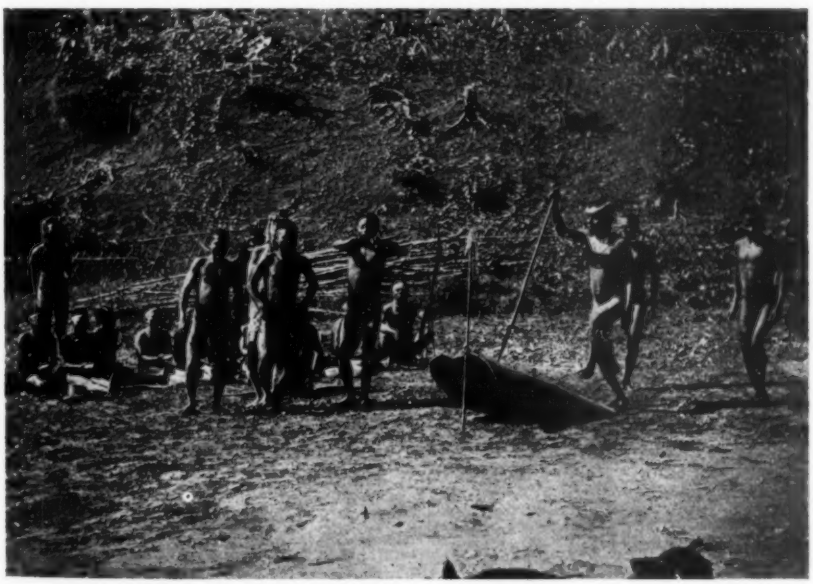
On page 86 a group of household articles is depicted, such as bamboo buckets, baskets, mats, tongs and other things. Many of the native baskets are beautifully ornamented by weaving into them strands of an orchid root (*Dendrobium* sp.). The root is split lengthwise, and the inner substance is scraped away with a Cyrena shell. The skin is then cleaned and dried, when it turns brilliant metallic yellow in color.

The upper figure on page 89 shows the manner of capturing a turtle. The spear used has a bamboo shaft 18 feet or more in length, and a long stout line, to which is attached a barbed iron point. (See Fig. 2 on page 90). This point fits loosely into the end of the shaft. When the point enters the turtle, the shaft separates from it and floats upon the water. The man grasps the spear with both hands about midway of its length and springs with it into the water, thus adding the force of his weight to that of the blow.

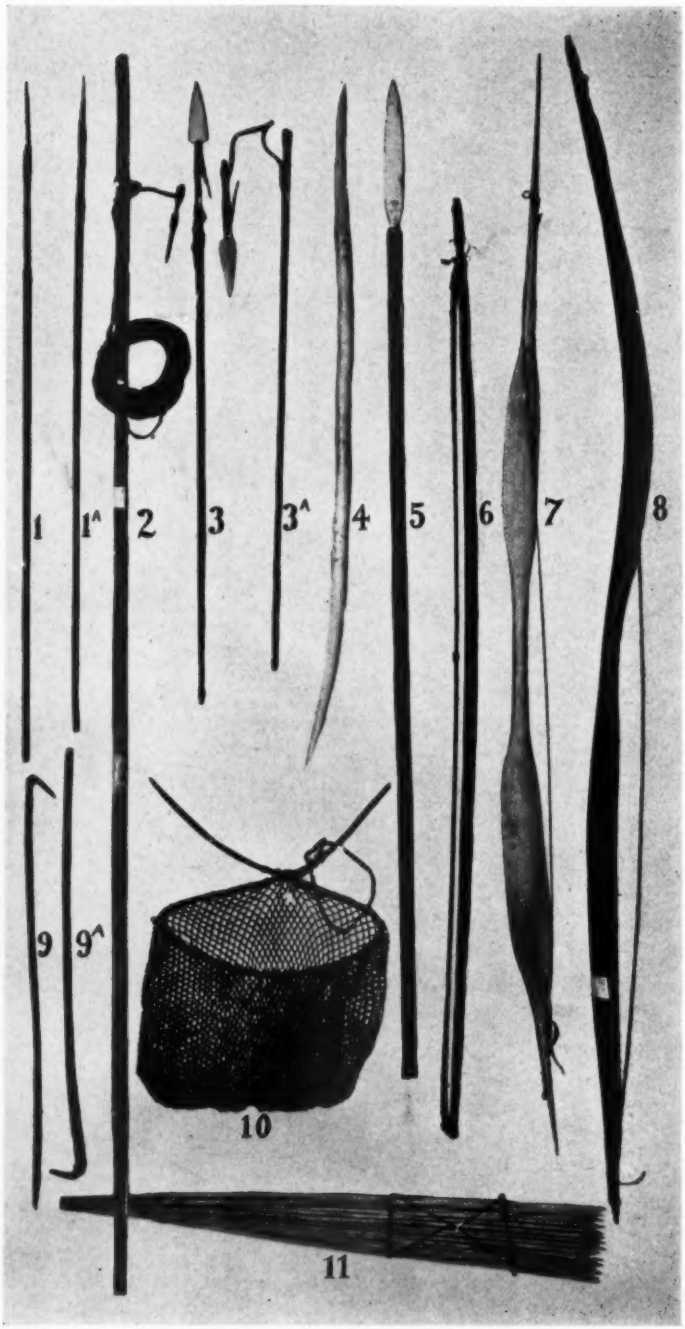
The Andamanese dance is illustrated in the lower figure on page 89. The dance is usually accompanied by a song and chorus, the composer acting as leader, and beating the sounding board or drum. Another view of the drum is given in Fig. 14 on page 85. All join in the chorus, the women marking the rhythm by clapping the hands or striking their crossed legs.

Some of the implements used in hunting and fishing are shown on page 90. The use of most of them is self-evident, but a few require special mention. Fig. 2 is a turtle spear like that shown in use on page 89. The arrows used in shooting the wild pig (Figs. 3 and 3a) are worthy of notice. The iron point, with its barb, fits loosely into the hollow end of the shaft, to which it is attached by a cord about eight inches in length. When the

SPEARING A TURTLE.



AN ANDAMANESE DANCE.



IMPLEMENTS OF WAR AND THE CHASE.

pig is struck the arrow-head is pulled out, and the shaft, trailing along on the ground quickly becomes entangled in the brush, making the capture of the animal easy. The sticks (Figs. 9 and 9a) with the crook on one end are used for capturing crabs among the rocks. Fig. 11 is a wooden fish spear. It only remains to notice the two very curious sigmoid bows shown in Figs. 7 and 8. The former is used by the tribes of North Andaman; the latter by those of South and Middle Andaman.

CHARLES W. MEAD.

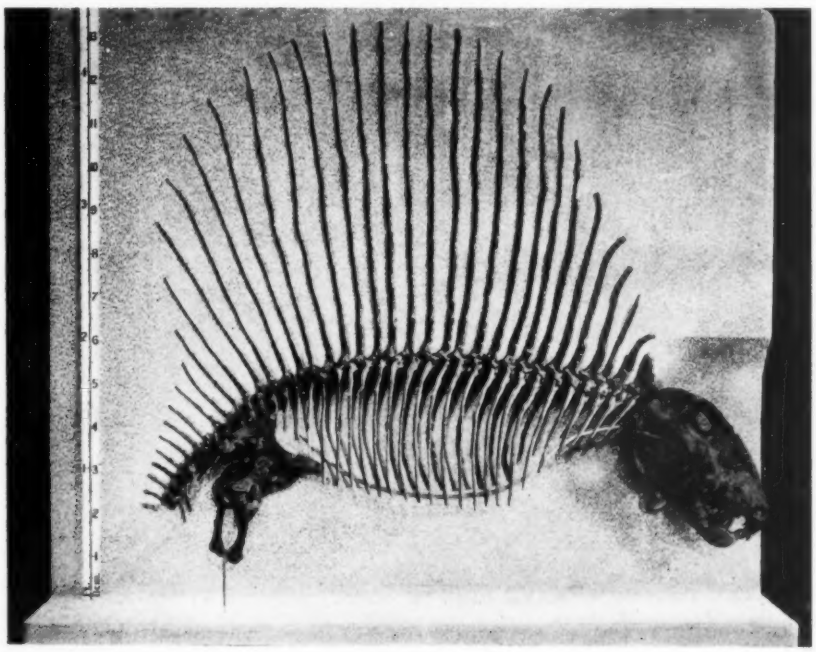


FIG. 1. SPINE-BACKED LIZARD DIMETRODON.

From the Permian of Texas. Skeleton discovered by Dr. E. C. Case in 1906.

THE OLDEST LAND REPTILES OF NORTH AMERICA.

EIGHTEEN years ago, in 1891, the American Museum began to gather together its collections of the extinct quadrupeds of the Age of Mammals, the ancestors and predecessors of the living quadrupeds. Six years later, the scope of the work was enlarged so as to include the animals of the Age of Reptiles, which preceded the Age

of Mammals, more especially the Dinosaurs, those gigantic, long-legged land reptiles, as strange to our eyes as though from another planet. Finally, within the last few years, the Museum has begun the representation of the vertebrate life of the Age of Amphibians, which preceded the Age of Reptiles and includes the Carboniferous and Permian Periods of geology. With this era we pass into a world as remote from the world of the Dinosaurs as that is from our own. Its dominant land animals were amphibians, remotely related to the modern salamanders, and peculiar types of primitive reptiles wholly different from the reptiles of the Dinosaur era and from any living kinds. Less gigantic than the Dinosaurs or the great quadrupeds of the Age of Mammals, they are

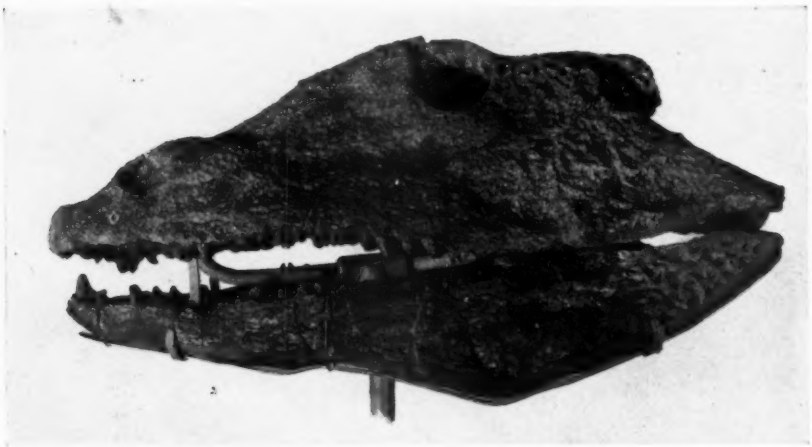


FIG. 2. ARMORED AMPHIBIAN ERYOPS. SKULL AND JAWS.
Cope Permian Collection, presented by Morris K. Jesup.

often most grotesque and peculiar. They are the first of land vertebrates, and in their clumsy and awkward proportions and construction, they impress one at every point with their imperfect adaptation to terrestrial life. The great vertebrate phylum was then but beginning to adapt itself to the more active life of the land, with its opportunities for evolution into higher types and more varied and complex modes of life than were afforded by an aquatic habitat. Probably most of these primitive land vertebrates were more or less amphibious; some we know were so. But with the assumption of a terrestrial environment came the opportunity for a more active life and continually higher development, as we see it in the successive geological periods down to the present time.

The purpose of this notice is to call attention to what has been and is being done by the American Museum towards exhibiting this ancient and wonderful Permian fauna which flourished during the later part of the Age of Amphibians. The first step was taken some years ago, in the purchase, through the generosity of the late President Morris K. Jesup, of the Cope Collection of Fossil Reptiles, which included the largest and finest series of Permian fossil vertebrates in the world. The specimens are chiefly from Northern Texas, the only region in which these rare fossils have been found in any considerable number. Professor Cope early realized the importance of the finds first made there in 1878, and had employed collectors there for many years. Owing to the difficulty and expense of preparation, the specimens had been very little worked up for scientific study and still less for exhibition.

FIG. 3. ARMORED AMPHIBIAN DIPLOCAULUS.
Cope Permian Collection, presented by Morris K. Jesup.

In addition to presenting the collection to the Museum, Mr. Jesup provided a special preparation fund which has made it possible to keep two skilled preparators at work on this and other parts of the Cope collection for several years past. As a result of their labors, the principal specimens of the Cope Permian Collection have been extracted from the flinty concretionary matrix in which they occur, and a considerable number have already been placed on exhibition in the southeast corner of the Dinosaur Hall. The series includes a more or less composite skeleton of the *Naosaurus* or Ship-lizard (a photograph of which has appeared in a previous number of the JOURNAL), parts of the skeletons and skulls of other Spine-backed Lizards, a large number of skulls and two skeletons

of the Armored Amphibians, *Eryops* (Fig. 2), *Diplocaulus* (Figs. 3, 4), *Cricotus* (Fig. 5), and others, and a series of skulls and other parts of the Solid-skulled Reptiles or Cotylosaurians.

It soon became evident that this wonderful fauna would well repay an energetic search for additional and more complete specimens, therefore in 1902 the Museum sent Mr. C. H. Sternberg, and in 1906 and 1908 Dr. E. C. Case, into the Texas fossil field. These expeditions made valuable additions to the Permian collections. In particular, Dr. Case succeeded in 1906 in obtaining skeletons of the Spine-Backed Lizard *Dimetrodon* (Fig. 1) and the large solid-skulled (Cotylosaurian) reptile *Diadectes*, much more complete than any previously known. The first specimen has been placed on exhibition as a panel mount, the other is now under preparation. The most important specimen obtained by Dr. Case last year was a fine skull of *Diadectes*. By persistent and

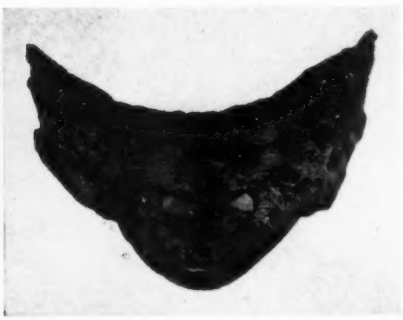


FIG. 4. SKULL OF ARMORED AMPHIBIAN DIPLOCAULUS.

Cope Permian Collection, presented by Morris K. Jesup.

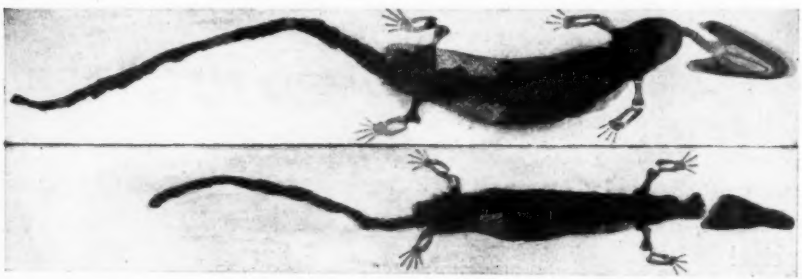


FIG. 5. SKELETONS OF THE ARMORED AMPHIBIAN CRICOTUS.

Cope Permian Collection, presented by Morris K. Jesup.

thorough exploration of this and other Permian fossil fields we may expect to obtain a large series of skeletons of these strangest and least known of all our fossil vertebrates.

The scientific value of these specimens can hardly be overrated.

Very little is known, even to scientific men, about Permian vertebrates. There are not half a dozen scientific men in this country who have any considerable first-hand knowledge of them, or half a dozen museums in the world that possess any considerable collections, and nowhere else have the specimens been so carefully prepared for study and exhibition as in the American Museum. The skulls and skeletons recently prepared here have not yet been thoroughly studied, but they will supply most important evidence regarding the early history of the land vertebrates, the manner, the conditions, and the causes of their development, their relations to the modern reptiles, amphibians and mammals. Upon the imperfect evidence hitherto available have been built various theories and hypotheses of relationship and development, which will have to be revised and modified in many cases, in view of the new evidence already at hand.

W. D. MATTHEW.

A GROUP OF PECULIAR MOLLUSKS.

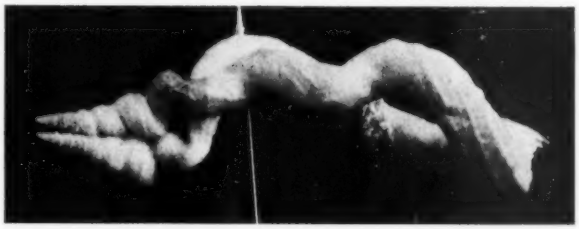
MR. A. DE COSTA GOMEZ has presented to the Department of Conchology an interesting group of shells of the mollusk *Vermicularia? nigricans* Dall (old nomenclature *Vermetus varians* D'Orb., var. *irregularis* D'Orb.). The specimen is a tightly coiled mass of tubes, a gorgon-like maze of tortuous pipes which look so much like the cases of the annelid genus *Serpula* that they appear rather incongruously referred to mollusks.

These anomalous mollusks were separated by Cuvier in 1830, and by him erected into an order. They are true prosobranchs, though in their shelly covering they have widely departed from any conventional shell design. The shells are usually attached to other shells or to corals, or they live in sponges, or again, as in this example, they unite to form large colonies. They are unisexual, oviparous, or viviparous, and the eggs are often found in the tubes. The animals are dark purple-brown in color with reddish dots. This species makes the so-called "worm rock" of West Florida. The masses of tubes are sometimes dangerous, like coral reefs, to boats in shallow water. Dall has observed patches 20 or 30 feet in diameter with the top nearly level and barely dry at ordinary low water.

A GROUP OF PECULIAR MOLLUSK SHELLS.

(*Vermicularia? nigricans* Dall.)

The specimen is interestingly varied in color, the tubes ranging from hyaline whites to soft sienna browns. Gasse's description of *Serpula* applies very well to these shells, "great and small heaps of contorted tubes, that look as if a batch of tobacco pipes had become agglutinated



VERMICULARIA? NIGRICANS DALL. (×2)

Two small shells from the group figured on p. 96.

together and strangely twisted in the baking." The shell begins in a close striated spine, the whorls of which relax as the tube is prolonged, the later growth becoming continually more erect. The specimen is from Clear Water Bay, Dunedin, Florida.

L. P. G.

MUSEUM NEWS NOTES.

SINCE the last issue of the JOURNAL the following persons have been elected members of the Museum: Life Members, MR. CHARLES LYMAN BRINSMADE and MRS. JOHN E. PARSONS; Annual Members, MESSRS. EDWARD B. AMEND, J. SANFORD BARNES, JR., D. M. BARRINGER, S. R. BERTRON, E. D. BIRD, HORATIO J. BREWER, C. T. CHURCH, HUBERT CILLIS, EVERETT COLBY, EDWARD LIVINGSTON COSTER, LAWRENCE GODKIN, GEORGE L. HARRISON, JR., HANCKE HENCKEN, THEODORE LYMAN, H. FAIRFIELD OSBORN, JR., H. F. OSBORN SANGER, RALPH SANGER and G. W. WILDER; MMES. HAMILTON FISH KEAN, H. FAIRFIELD OSBORN, M. GRACE RICHARDSON, RALPH SANGER and EDWARD THOMAS; MISSES GERTRUDE L. HOYT, BEATRIX JONES, KAUTZ-EULENBURG and JOSEPHINE A. OSBORN.

THE Museum has recently acquired through purchase from Mr. G. R. Cassedy, of Cañon City, Colo., an iron meteorite that will form a valuable addition to the series of meteorites in the Foyer of the

Museum. The specimen, which weighs 682 pounds, was found November 11, 1907, in Fremont County, Colorado, about 20 miles southwest of Cripple Creek. A complete description of the meteorite is reserved for a later issue of the JOURNAL.

THE thirteenth annual meeting of the Audubon Society of the State of New York, was held at the American Museum of Natural History at 3:30 P. M., March 18, 1909. The president of the society, Professor Henry Fairfield Osborn, presided. The report of Miss Emma H. Lockwood, secretary-treasurer of the society, showed that the activities of the organization in protecting the birds of the State and in supplying material for the use of teachers and others, was limited only by available funds. Mr. William Dutcher, the president of the National Association of Audubon Societies and chairman of the New York societies' Committees on Legislation, presented a report on current legislative matters with particular reference to a bill now before the New York Legislature, the passage of which would practically prohibit the sale of the plumage of all New York State birds for millinery purposes. Mr. Dutcher asked all the members of the Society to urge their representatives at Albany to support this bill. Following Mr. Dutcher's report, Mr. Louis Agassiz Fuertes, the well-known bird artist, made an address on birds and their music, which he illustrated with chalk sketches of the birds and whistled imitations of their songs. In connection with this meeting there was an exhibition of paintings of birds by Mr. Fuertes, which continued during the succeeding week.

LECTURE ANNOUNCEMNNTS.

MEMBER'S COURSE.

THURSDAY evenings at 8:15 o'clock. Doors open at 7:45 P. M. One lecture remains to be given.

April 1.— "The passing of Our Great Wild Animals and Means taken to Restore Them." By DR. WILLIAM T. HORNADAY, Director of the New York Zoölogical Park.
Illustrated with lantern slides.

PUPILS' COURSE.

THESE illustrated lectures are open to the pupils of the public schools when accompanied by their teachers and to the children of Members of the Museum on the presentation of Membership tickets.

Lectures begin at 4 P. M.

Friday, April 16.— "The Panama Canal." By E. O. HOVEY.
Monday, April 19.— "Famous Rivers of the World." By WALTER GRANGER.
Wednesday, April 21.— "Natural Wonders of our Country." By R. W. MINER.
Friday, April 23.— "American Forests and their Uses." By G. H. SHERWOOD.
Monday, April 26.— "Mediterranean Countries, Ancient and Modern." By WALTER GRANGER.
Wednesday, April 28.— "The American Indian of To-day." By H. I. SMITH.
Friday, April 30.— "Travels in the Western States." By BARNUM BROWN.

LECTURES ON BIOLOGY.

ARRANGED by the Biology Departments of the Normal College and the High Schools of Manhattan. Illustrated with stereopticon views.

Thursday afternoons at 3:30 o'clock.
One lecture remains to be given.

April 15.— "Natural History of Animals." By DR. HENRY E. CRAMPTON.

PEOPLE'S COURSE.

GIVEN in coöperation with the City Department of Education.

Tuesday evenings at 8'oclock. Doors open at 7:30.

Two lectures by Professor A. D. F. HAMLIN on "The Architecture of Great Cities." Illustrated with stereopticon views.
April 6.— "London."
April 13.— "New York."
April 20.— "Florence, Cradle of the Renaissance." By MR. FRANCIS M. STRICKLAND.
April 27.— "Berlin, and Military Life in Germany." By DR. HENRY ZICK.

Saturday evenings at 8 o'clock. Doors open at 7:30.

April 3.— "Child Labor in America." By MR. OWEN R. LOVEJOY.
April 10.— "The Children's Court." By MR. ERNEST K. COULTER.
April 17.— Subject and lecturer to be announced.
April 24.— "The City Beautiful, or the Planning and Embellishment of Cities." By MR. ARTHUR A. STOUGHTON.

MEETINGS OF SOCIETIES.

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Second Mondays, Section of Biology.
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Fourth Mondays, Section of Anthropology and Psychology.

On Tuesday evenings, as announced:
The Linnæan Society of New York, The New York Entomological Society and the Torrey Botanical Club.

On Wednesdays, as announced:
The Horticultural Society of New York.
The New York Mineralogical Club.

On Friday evenings, as announced:
The New York Microscopical Society.

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The American Museum Journal

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Subscription, One Dollar per year. Fifteen Cents per copy.
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Subscriptions should be addressed to The American Museum Journal, 30 Boylston St., Cambridge, Mass., or 77th St. and Central Park West, New York City.

Entered as second-class matter January 12, 1907, at the Post-office at Boston, Mass. Act of Congress, July 16, 1894.

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